

Appl. No. 10/045,267  
Amdt. Dated November 4, 2005  
Request for RCE

APP 1291

### Listing of Claims

Claims 1- 30 (canceled)

Claim 31 (currently amended) A system for dynamically allocating Internet Protocol (IP) addresses for wireless cells in a communication network including wireless and wireline terminals, wireless address agents, and a system IP address server,

said system IP address server including a wireless handoff IP address pool, a wireless resident IP address pool, and a wired terminal IP address pool and a predictive analysis for allocating IP address ~~addresses~~ between said pools; and

said wireless IP agents including a time-sensitive IP address pool which receives an allocation of addresses from said system IP address server and a classification process which determines if a wireless terminal requesting an IP address is a time-sensitive host or a time insensitive host, said wireless IP agent directly forwarding to the requesting wireless terminal an IP address from its time sensitive IP address pool if the requesting terminal is a time-sensitive host and forwarding the request to the system IP address server if the requesting terminal is a time insensitive host.

Claim 32 (previously presented) A method for dynamically allocating Internet Protocol addresses for wireless cells in a communication network including wireless and wireline terminals, wireless agents, and a system IP address server, said method comprising the steps of:

said system IP address server predicatively allocating addresses to a wireless handoff address pool, a wireless resident IP address pool, and a wired terminal IP address pool and forwarding to time sensitive address pools in said wireless IP address agents IP addresses;

each wireless IP agent upon receiving a request for an IP address from a wireless terminal determining if said request is time sensitive or time insensitive;

if said request is time sensitive, said wireless IP agent directly providing to said requesting wireless terminal an IP address from its time sensitive IP address pool; and

if said request is time insensitive, said wireless IP agent forwarding said request to said IP address server.

Claim 33 (previously presented) The method in accordance with claim 32 wherein said step of determining comprises receiving a predetermined byte-code in an option field within a DHCP request message from the requesting wireless terminal.

Claim 34 (previously presented) The method in accordance with claim 33 wherein the predetermined byte-code represents a decimal number in a range of 128-254.

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Claim 35 (currently amended) A method for dynamically providing an Internet Protocol (IP) address pool for a dynamic address allocation protocol to serve addresses for a wireless cell depending on whether a request for an address by a wireless cell involves a time sensitive or a time sensitive insensitive demand, said method comprising the steps of:

partitioning the IP pool into groups of address spaces for use with an associated user group within the wireless cell;

monitoring the types and frequencies of address demands associated with the wireless cell, the wireless cell distinguishing between time sensitive IP address demands and time insensitive IP address demands for the assignment of an IP address from the IP address pool; and

updating the groups of address spaces by a system IP address server based on the number of time sensitive and time insensitive demands as distinguished by the wireless cell.

Claim 36 (previously presented) The method of claim 35 wherein said dynamic address allocation protocol is DHCP.

Claim 37 (previously presented) The method of claim 35 wherein a request for an address by a wireless cell involving a handoff host is a time sensitive request and a request involving a dormant host is a time insensitive request.

Claim 38 (previously presented) A method for dynamically providing IP addresses to requesting wireless terminals in a communication network, said method comprising the steps of

a system IP address server predicatively allocating addresses to a plurality of IP address pools and providing pools of IP addresses to wireless IP address agents;

a wireless IP agent upon receiving a request for an IP address from a requesting wireless terminal determining if said request is time sensitive or time insensitive;

if said request is time sensitive said wireless IP agent directly providing to said wireless terminal an IP address from the IP address pool at said wireless IP agent; and

if said request is time-insensitive, said wireless IP agent forwarding said request to said system IP address server.